DOCUMENT RESUME

ED 281 122 CG 019 856

AUTHOR Binning, John F.; Fernandez, Guadalupe
TITLE Heuristic Processes in Ratings of Leader Behavior: Assessing Item-Induced Availability Biases.
PUB DATE Aug 86
NOTE 13p.; Paper presented at the Annual Convention of the American Psychological Association (94th, Washington, DC, August 22-26, 1986).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Rating Scales; *Bias; Cognitive Processes; College Students; *Evaluation Criteria; Evaluators; Heuristics; Higher Education; *Leaders; *Memory; *Recall (Psychology)
IDENTIFIERS *Availability Heuristic

ABSTRACT

Since observers' memory-based ratings of organizational phenomena provide data in research and decision-making contexts, bias in observers' judgments must be examined. A study was conducted to explore the extent to which leader behavior ratings are more generally biased by the availability heuristic. The availability heuristic is operative when a rater judges the frequency of occurrence of a behavior by the ease with which specific instances of that behavior can be remembered. The extent to which certain characteristics of behavior description items underly differences in the way examples of these behaviors are retrieved from memory was investigated. A literature review identified six possible determinants of availability differences between behavior description items. College students (N=96) rated each behavior description of the Leader Behavior Description Questionnaire (LBDQ) on one of the six identified availability components. All 100 items of the LBDQ were rated separately by 16 subjects for each availability component. The results strongly support the hypotheses that availability of items (i.e., more specific, valent, imagineable, dramatic, familiar and retrievable) would significantly correlate with actual ratings of leader behavior, reported in two previously published studies, and that these correlations would be larger when little actual stimulus behavior was present prior to rating compared to conditions where actual behavior was present. (Author/NB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED281122

Heuristic Processes in Ratings of Leader Behavior: Assessing Item-induced Availability Biases

John F. Binning and Guadalupe Fernandez

Illinois State University

CG 019856

Paper presented at the 94th Annual Convention of the American Psychological Association, Washington, D. C., August, 1986.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

John F. Binning

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Heuristic Processes in Ratings of Leader Behavior: Assessing Item-induced Availability Biases

The present study investigated the extent to which certain characteristics of behavior description items underly differences in the way examples of these behaviors are retrieved from memory. A review of the literature resulted in the identification of six possible determinants of availability differences between behavior description items. All 100 items of the Leader Behavior Description Questionnaire (LBDQ) were assessed on each of the six availability copmponents. It was hypothesized that the availability of items (i.e., more specific, valent, imagineable, dramatic, familiar and retrievable) would significatly correlate with actual ratings of leader behavior, reported in two previously published studies. Moreover, it was hypothesized that these correlations would be larger when little actual stimulus behavior was present prior to rating compared to conditions where actual behavior was present. These hypotheses were strongly supported.

Observer's memory-based ratings of various organizational phenomena provide the data in many research and decision-making contexts (e.g., studies of leader behavior, performance appraisal, selection interviewing, etc.). Therefore, any bias in observers' judgments poses a threat to the quality of these data as well as subsequent decisions. One such bias occurs when group members rate various aspects of their group's functioning with concomitant knowledge of the group's performance (Binning & Lord, 1980; Larson, 1982; Lord, Binning, Rush & Thomas, 1978; Staw, 1975). It is consistently found that group members given bogus feedback indicating their group performed a designated task poorly, rate the group leader's behavior (as well as other group phenomena) significantly more unfavorably than their counterparts who receive bogus good performance feedback. Binning, Zaba & Whattam (in press) suggest that this performance cue effect stems from use of the representativeness heuristic (Tversky & Kahneman, 1982). This simple judgmental strategy is used to simplify judgments about the likelihood that an event (or behavior) is an instance of a given class of events based on how representative the event is of the more general class. Binning, et al. (in press) found that behaviors more closely associated with preheld notions of effective leadership were judged to have more likely occured in the bogus good performance condition and vice versa for the poor performance condition, independently of the leader's actual behavior!

The present study explores the extent to which leader behavior ratings are more generally biased by another cognitive heuristic commonly relied upon for making judgments of frequency and probability. The availability heuristic is operative when a rater judges the frequency of occurence of some behavior or event by the ease with which specific instances of that

behavior can be brought to mind. A behavior's availability in memory is affected not only by actual frequency of exposure to that behavior, but also other factors unrelated to actual frequency of exposure. These other factors operate to bias judgments based on availability.

The logic underlying the present study suggests that behavioral description items, as typically found on leadership questionnaires, job analysis questionnaires, and performance appraisal instruments, for instance, may differ in semantic characteristics, level of description, and potentially many other aspects which make some more "available" than others. It is important to stress that the locus of these differences is in the ease with which examples of the behaviors described can be recalled from memory, independently of actually observed behavior. Those behaviors for which it is easier to imagine examples, for instance, would be judged as more frequent (or more likely to occur) than less available behaviors, perhaps even if the opposite were true of actual stimulus behavior. This could potentially represent a potent source of bias in ratings of observed behaviors.

To test this notion, the literature was first reviewed in order to identify various factors which might underly availability differences among behavior description items. A total of six possible determinants of availability differences was indentified. These were (a) Dramatic Value (b) Familiarity (c) Imagery Value (d) Specificity (e) Valence and (f) Retrievability. Stated simply, we hypothesized that behavioral items which described behaviors which (a) aroused more emotion (drama) (b) were more familiar to subjects (c) aroused more vivid mental images (d) were more specific (e) seen as more evaluatively positive (valence) and (f)

were independently judged to be easier in retrieving examples from memory, would be rated to occur with greater frequency than their less available counterparts.

Method

Subjects and Procedure

Ninety-six student subjects were given the Leader Behavior Description Questionnaire (LBDQ, Form XII, Stogdill, 1973), with special instructions to rate each behavior description on one of the six availability components described above. In other words, all 100 items on the LBDQ were rated separately by sixteen subjects for each availability component.

Instructions for each of the components contained a brief definition of the component followed by a simple example. For instance, those subjects instructed to rate dramatic value were told;

> Behaviors differ in the extent to which they evoke strong feelings in us. Some behaviors evoke strong feelings in us; for example, "my father just won a million dollar lottery." Other behaviors do not evoke strong feelings; for example, "John watched TV for a couple of hours."

A similar format for instructions was used for the other five components. Subjects rated each LBDQ item on a 10-point Likert scaled anchored at the ends with descriptions such as, "very easy to imagine - very difficult to imagine" or "do not evoke strong feelings-evoke strong feelings", etc. The mean rating for each LBDQ item on each availability component was then computed. As a result, each of the 100 LBDQ items had associated with it, six values representing its mean rating for each of the six availability com-

ponents.

In order to test our hypothesis, we needed actual ratings of leader behavior obtained from an independent sample of raters. Therefore, the leader behavior ratings from two previously published studies were used. These two studies were chosen because of the important contrast in methodology they afforded. Rush, Thomas and Lord (1977), interested in assessing implicit leadership theories, had their subjects complete the LBDQ after observing no actual leader behavior. Instead, subjects were given a brief description manipulating several characteristics of a hypothetical leader. This limited information condition is in stark contrast to a study by Lord, et al. (1978) where subjects were exposed to a fifteen minute videotape of actual leader behavior prior to completing the LBDQ. We refer to this latter study as a full information condition.

We then correlated, across LBDQ items, their availability ratings with the actual leadership ratings obtained in the limited and full conditions. It had been hypothesized that actual ratings of leadership would positively covary with availability components in the manner described earlier. We further hypothesized that the magnitude of these correlations would differ between the limited and full information conditions. In the limited information condition, where actual leader behavior information is minimized, reliance on heuristically-generated judgments should be greater. On the other hand, in the full information condition, where actual rating-relevant information is presented, leader behavior ratings should be less dependent on heuristically-based judgments. Therefore, we hypothesized that for both the limited and full information conditions, significant correlations between availability values and actual ratings would be obtained. However, we

expected that these correlations would be substantially larger in the limited than in the full information condition.

Results

In order to assess the independence of the six availability components, their ratings were intercorrelated. This intercorrelation matrix appears in Table 1. The components are moderately intercorrelated, the

---

Insert Table 1 about here

---

largest being the correlation between familiarity and valence ($r = .73$, $df = 98$, $p < .001$). Familiarity also correlates highly with retrievability ($r = .72$, $p < .001$). The remaining significant intercorrelations range in absolute value from .18 ($p < .05$) to .63 ($p < .001$). The median correlation is .44. Three of the intercorrelations were not statistically significant. Generally then, the six components, while not being independent, seem to be tapping somewhat different characteristics of the behavior description items.

Correlations between availability components and actual ratings of leadership were then computed. These appear in Table 2. All six availabi-

---

Insert Table 2 about here

---

lity components correlated significantly with actual ratings in <u>both</u> the limited and the full information conditions, with the exception of specificity and imaginability, which did not correlate in the full information condition. The correlations in the limited information condition ranged

from .27 to .74, and in every case, as expected, were larger than the corresponding correlations in the full information condition.

To more fully assess the role of availability in determining actual ratings, step-wise regression analyses were performed. In the limited information condition, familiarity, retrievability and drama entered the equation explaining, 54%, 4% and 4% of the variance in actual ratings, respectively. In the full information condition, valence and retrievability explained 19% and 4%, respectively.

Discussion

The results of this study strongly suggest that ratings of leader behavior, and presumably other behaviors, are significantly biased by the ease with which examples of the behavior descriptions (or anchors) can be retrieved from memory. Although this bias is greater when there is limited information about actual behavior, significant bias exists even when clear stimulus behavior has been observed. When used to rate actually observed behavior, the more familiar, dramatic, specific, positively valent, imagineable and retrievable behavior description items, received higher frequency ratings, than less available items. Moreover, although the six availability components were intercorrelated, regression analyses indicate that several do explain unique variance in actual ratings. The upshot of these findings is that behavior ratings may be susceptible to item-induced biases which result from raters' naturally-occuring use of the availability heuristic as an aid in processing behavioral information. By better understanding the heuristic processes which underly behavior ratings, practioners and researchers alike, may be better able to eliminate such

unwanted bias from widely-used rating instruments.

It is important to emphasize that, unlike rating biases which derive primarily from the interaction between cognitive processes and stimulus information (i.e., performance cue effects mentioned earlier), the availability bias described here may stem primarily from identifiable differences between behavior description items. This being the case, rating instruments can be more carefully developed so that items and anchors are equated for availability in the construction phase of development. Leader behavior questionnaires along with BARS, BOS and other standard rating formats can be constructed to ameliorate such biases.

Table 1

Intercorrelations Among Availability Components

Component	F	D	S	V	R
Familiarity	-				
Drama (D)	.57***	-			
Specificity (S)	.33***	.15	-		
Valence (V)	.73***	.63***	.31***	-	
Retrievability (R)	.72***	.43***	.33***	.55***	-
Imaginability (I)	.27**	.11	.18*	.00	.45***

Note: df = 98

*** $p < .001$
** $p < .01$
* $p < .05$

Table 2

Correlations of Availability Components with Actual Behavior Ratings

Components	Limited Information Condition	Full Information Condition
Familiarity	.74***	.40***
Drama	.27**	.19*
Specificity	.35***	.16
Valence	.47***	.44***
Retrievability	.68***	.41***
Imaginability	.38***	.04

*** $p < .001$
** $p < .01$
* $p < .05$

References

Binning, J. F., & Lord, R. G. (1980). Boundary conditions for performance cue effects on group process ratings: Familiarity versus type of feedback. Organizational Behavior and Human Performance, 26: 115-130.

Binning, J. F., Zaba, A. J. & Whattam, J. (in press). The biasing effects of performance cues on specific behavior descriptions and global evaluations: A cognitive categorization explanation. Academy of Management Journal.

Kahneman, D., Slovic, P., & Tversky, A. (1982) Judgment under uncertainty: Heuristics and biases. New York: Cambridge University Press.

Larson, J. R. (1982) Cognitive mechanisms mediating the impact of implicit theories of leader behavior on leader behavior ratings. Organizational Behavior and Human Performance, 29: 129-140.

Lord, R. G., Binning, J. F., Rush, M. C., & Thomas, J. C. (1978). The effect of performance cues and leader behavior on questionnaire ratings of leadership behavior. Organizational Behavior and Human Performance, 21: 27-39.

McElroy, J. C., & Downey, H. K. (1982). Observation in organizational research: Panacea to the performance-attribution effect? Academy of Management Journal, 25: 822-835.

Rush, M. C., Thomas, J. C., & Lord, R. G. (1977). Implicit leadership theory: A potential threat to the internal validity of leader behavior questionnaires. Organizational Behavior and Human Performance, 20: 756-765.

Staw, B. M. (1975). Attribution of the "causes" of performance: A general alternative interpretation of non-sectional research on organizations. Organizational Behavior and Human Performance, 13: 414-432.